

REMARKS

Reconsideration of the subject application is requested. It is believed that the application as amended is in a condition for allowance because of the following reasons. Dubois is a carburizing steel composition, unlike the claimed inventions, containing substantial amounts of Co and Mo and up to 0.18% carbon prior to carburizing. In Dubois, carburizing is applied to a finished or semi-finished part and results in increased carbon concentration on and near the part's surface. The effect of carburization is to strengthen the surface while leaving most of the part's section relatively soft.

Due to the constraints of the process itself, carbon concentration on the surface is usually over 0.50% , diminishing to the level of initial composition over depths measured in millimeters and fractions thereof. Thus carbon content similarity between carburized Debois and the claimed alloys can only be observed over a small portion of a part's section and with everything else being equal the same mechanical properties cannot be achieved in parts made from Dubois and the claimed alloys.

Although a part can be carburized to significant depths or through-carburized, such processing would take a very long time and will lead to significant grain growth in metal, resulting in inferior mechanical properties as compared to the mechanical properties of the claimed alloys..


Philip et al (US Patent 3,713,905) discloses an alloy which contains Molybdenum, Cu and in a range from 0.65% and higher. All the cited examples in the description show

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significantly higher Cu content (about 2%) and a Si to Cu relationship which is not deemed important. Hence, the mechanical properties achieved with this alloy in the cited examples are inferior to those of the claimed inventions.

The amendments to the claimed invention patentably distinguish the claims from the cited references.

Respectfully submitted,

A handwritten signature in cursive script, reading "Alex Rhodes".

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